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RESEARCH ARTICLE

Decent Work dimensions as a demand and or a resource: Association with workers' risk behaviours

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Abstract

Decent Work (DW), the 8th Sustainable Development Goal of the United Nations 2030 Agenda, encompasses seven dimensions, reflecting people's work aspirations. Using the Job Demands-Resources (JD-R) theory, this study explores how DW dimensions can simultaneously function as resources (when adequately met) and demands (when requiring significant effort to address deficits). Using a non-experimental, cross-sectional design, with data collected through standardized questionnaires from active workers in Spain (n=1313) and Portugal (n=494), this study explores configurations of DW dimensions as demands and/or resources and their association with self-reported risk behaviours like alcohol consumption, smoking, and physical inactivity. A two-step cluster analysis identified four Decent Work Demands and Resources (DWDaR) profiles: *Demanding, Resourceful, Rich, and Poor DW*. "Adequate working time and workload" included the highest demand, while "Fundamental principles and values at work" showed the highest resource. The profiles showed significant differences in risk behaviours. The Demanding DW profile was associated with lower alcohol consumption and physical activity compared to the Resourceful DW profile. Participants in the Poor DW profile exhibited lower physical activity than those in the Resourceful DW profile. No significant differences in smoking behaviours were observed among the profiles. This study integrates JD-R theory with DW, offering practical and theoretical implications for policymakers, organizations and future research.

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Plain Language Summary

This study explores how people's working conditions affect their health and habits, such as drinking, smoking, and physical activity. It focuses on the idea of Decent Work, which means having fair, safe, and meaningful jobs where people are treated with dignity and respect, a key goal of the United Nations' 2030 Agenda. Using the Job Demands–Resources (JD-R) theory, the research examined how different aspects of Decent Work can act as both resources (helpful and supportive) and demands (stressful and challenging). For example, fair treatment and job security can make work fulfilling, while excessive workload or lack of balance can cause stress. Data were collected from 1,807 workers in Spain and Portugal. The analysis identified four types of work environments: Resourceful, Rich, Demanding, and Poor Decent Work, depending on the balance between demands and resources. Results showed that workers in Demanding and Poor conditions were less physically active, while those in Resourceful environments reported slightly higher alcohol consumption, possibly linked to social factors at work. Smoking habits did not differ between groups. The study highlights that improving working conditions can promote healthier lifestyles and greater well-being. Creating decent and supportive workplaces not only benefits employees but also contributes to broader goals of equality, health, and sustainable development.

Keywords

Decent Work, job demands, job resources, risk behaviours



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Introduction

In the fast-changing labour market, characterized by economic transformations, digitalization, globalization, scarcity, precarious employment, and rising unemployment, having a job is considered a critical source of autonomy, citizenship, and a meaningful foundation in human life (Gonçalves & Coimbra, 2007). Overell (2009) argues that the absence of work threatens individual and societal well-being, leading to psychological states such as fear, distress, and apathy. Thus, work forms a significant part of a person's identity, providing sustainability, social connections, self-determination, and meaning (Blustein *et al.*, 2023).

Gonçalves and Coimbra (2007), note that Psychology and Philosophy have examined the human experience of work from an existential standpoint. This approach, contrasting instrumental views driven by neoliberal economies, focuses on humanizing work, aiming to counterbalance the legitimization of interests by large economic entities and address disparities in wealth distribution.

The concept of Decent Work (DW) was proposed by Juan Somavia, the ILO Director, in 1999. It advocates decent and productive work for all men and women under conditions of freedom, equity, security, and human dignity (Somavia, 1999). This concept gained further global recognition when incorporated as the 8th Sustainable Development Goal in the United Nations 2030 Agenda (United Nations, 2015).

Blustein *et al.* (2023) argue that work quality significantly impacts individual well-being and community welfare. However, they highlight limitations in the ILO's definition. Brill (2021) further discusses that the discourse on DW often neglects pressing issues such as growing precarity and harsh conditions in neoliberal economies, as organizations prioritize competitiveness and profitability over employee welfare. This can result in practices such as reducing learning opportunities, enforcing longer working hours without extra compensation, and disregarding work-security guidelines. Scholars have responded by advocating for a more individual-centered and justice-oriented approach to DW, emphasizing the significance of the concept 'meaningful work' in understanding its nature and impact (Blustein *et al.*, 2023; Soren & Ryff, 2023).

Nonetheless, within the Work, Organizational, and Personnel Psychology (WOPP) framework, the concept of DW also encompasses the perception that work can provide fulfillment for the worker and simultaneously be constructive for society, integrating the idea of "meaningful work" within its definition (Ferraro, 2023).

Ferraro (2023) explains that the evolution of research on DW involves combining macro-level and micro-level analyses. According to the author, macro-level analysis refers to the study of large-scale, systemic factors such as employment policies, economic conditions, and labor regulations that influence the availability and quality of work across populations or countries. In contrast, micro-level analysis focuses on how individual workers experience and perceive their working conditions in their daily lives.

The WOPP approach serves as an important bridge between these two levels by linking structural factors to personal and psychological experiences at work. This shift allows us to understand how workers experience and perceive DW, and to assess its impact on various aspects of workers' lives, such as various physical and mental health indicators (Dinis *et al.*, 2022; Duffy *et al.*, 2019; Duffy *et al.*, 2021), which can include their risk behaviours. However, Ferraro (2023) identifies a gap in measuring workers' perceptions of DW at the individual and psychological level.

Blustein *et al.* (2016) argue that the current trend in DW research often serves market forces rather than focusing on human rights and individual well-being. The authors argue that a psychological perspective can help revitalize the DW agenda by introducing a more specific focus on individual experiences and reconnecting DW to its social justice origins. Thus, the present work aims to apply a psychological approach to DW.

To address these gaps, the present study focuses on the seven DW dimensions proposed by Ferraro *et al.* (2018), in a WOPP approach, that collectively embrace a comprehensive spectrum of individuals' work-related aspirations. These dimensions align with the eleven substantive elements of the ILO's definition of DW and emerged from the exploratory factorial analysis conducted by Ferraro *et al.* (2018). In the following section, the definitions of these dimensions are presented.

Based on the Job Demands–Resources (JD-R) theory, developed by Demerouti *et al.* (2001) (see also Bakker *et al.* (2023)), these seven dimensions could be seen as resources and demands. According to Bakker *et al.* (2023), job demands require sustained effort and are associated with physiological or psychological costs, while job resources help achieve work goals, regulate job demands, and stimulate personal growth. Previous studies have explored the combined effect of demands and resources (e.g., Bakker *et al.* (2010); Hu *et al.* (2011)). However, examining the same DW dimension as being simultaneously perceived as a potential demand and resource, is a novel approach (Dos Santos & Pais, 2025) deserving empirical research.

This study explores how the level of accomplishment of the decent work dimensions influences self-reported risk behaviours. The complexity arises when decent work dimensions are perceived as resources and demands. This dual perception may influence risk behaviours differently, based on the extent to which each decent work dimension is perceived as a demand and a resource. Additionally, the link of these perceptions with risk behaviours such as alcohol consumption, smoking, and physical inactivity is underexplored. Decent work deficits often lead to maladaptive coping mechanisms, whereas supportive environments might encourage healthier behaviours, such as regular physical activity (Duffy *et al.*, 2021).

By examining these perceptions within the DW dimensions, this study aims to deepen the understanding of how work conditions contribute to risk behaviours. It explores (1) to what extent DW dimensions are perceived as demands and/or resources; (2) how these perceptions combine to form distinct worker profiles; and (3) how these profiles are associated with health-related risk behaviours. To address these questions, the study applies an innovative person-centered approach through cluster analysis to identify Decent Work Demands and Resources (DWDaR) profiles. This methodological strategy represents a key contribution, as it links two important fields of research: Decent Work and JD-R theory. It also allows the study of how work contents, conditions, and contexts – whether supportive, challenging, or stressful – influence individuals' well-being and risk behaviours, shedding light on the broader societal implications of work conditions.

In line with calls from scholars to engage psychology more directly in the global struggle for human rights (Blustein *et al.*, 2019), the present research moves beyond individual-level outcomes and contributes to the broader goals of the Sustainable Development Agenda. DW is not only a pathway to well-being but also a Sustainable Development Goal in itself (SDG 8) and a foundational pillar of sustainable development, as defined in the United Nations 2030 Agenda (ILO, 2017). Its interdependence with all the other goals (ILO, 2017), including public health (SDG 3), gender equality (SDG 5), and reduced inequalities (SDG 10), as well as poverty and hunger eradication, innovation and industrial development, highlights the importance of policy frameworks that address the societal impact of inadequate work conditions. This study contributes to that discourse by offering psychological evidence on how deficits in DW relate to maladaptive health behaviours, thereby reinforcing the need to prioritize work-life quality and employment protections in public policy.

The remainder of this article is structured as follows: first, we review the literature on Decent Work, JD-R theory and risk behaviours. Next, the method is presented, including sample, measures, and procedures. We then report the results, followed by a discussion of theoretical and practical implications, limitations, and directions for future research.

Literature review

Decent work

The issue of unemployment often overshadows the challenges faced by those trapped in precarious work, underemployment, and working poverty, particularly affecting migrants (Mallett, 2018). Recent ILO data shows that globally, vulnerable employment exceeds unemployment numbers (Mallett, 2018). These workers lack job security, regular income, and social protection, with over 1.4 billion people falling into this category, including 300 million living in extreme poverty (Mallett, 2018). While efforts have historically focused on creating more jobs, the concept of DW has gained momentum, emphasizing not only job quantity, but also quality (Mallett, 2018).

Somavia (1999) asserted that the ILO fosters peace, stability, and prosperity alongside social justice for workers worldwide. In 1999, the Director-General of the ILO stated that the primary goal of the Organization was to promote DW for all individuals, irrespective of gender, in conditions of freedom, equity, security, and human dignity. According to Somavia (1999), DW is guided by four objectives: ensuring universal respect for fundamental principles and rights at work, fostering employment and income opportunities for everyone, expanding social protection, and promoting social dialogue.

The ILO (2013) later introduced a framework comprising 11 dimensions to measure DW, including adequate earnings, work-life balance, job stability, equal opportunities, and workplace safety.

Ferraro *et al.* (2018) developed a questionnaire, with seven dimensions, to measure DW from the WOPP perspective, assessing workers' perceptions of their work and professional context in relation to DW.

The first dimension, "Fundamental principles and values at work", encompasses justice, dignity, freedom, and fair treatment in the workplace, along with trust and respect at work. High-quality relationships at work can serve as a resource but may also demand time and energy, such as engaging in decision-making processes or resolving injustices. Additionally, if relationships are poor, they become a demand, unless the individual disengages from work (Dos Santos, 2019; Ferraro, 2023; Ferraro *et al.*, 2018).

The second dimension, "Adequate working time and workload", evaluates time management, work-family balance, and work schedules (Dos Santos, 2019). High levels of accomplishment in these areas clearly serves as a resource, whereas inadequacy becomes a demand. The concept of Work-Life-Flow offers a redefinition of this dimension through the lens of the JD-R theory, by integrating demands and resources. Flexible work arrangements, such as hybrid models, may simultaneously introduce new demands that impact well-being while also functioning as valuable resources. A sense of fulfillment at work may still emerge even when this balance is not fully achieved (Berger *et al.*, 2023; Czakert *et al.*, 2024).

The third one, "Fulfilling and productive work", focuses on personal and professional development, value creation, and work meaningfulness. High fulfillment and productivity constitute a resource, whereas low levels become a demand (Ferraro, 2023). However, situations can arise where both high fulfillment and productivity coexist with high demands, especially when the worker is passionate and motivated with their work, yet it requires engagement and investment, which are psychological and/or physical costs (Dos Santos & Pais, 2025).

The fourth dimension, "Meaningful remuneration for the exercise of citizenship", examines fair compensation and the ability to provide for oneself and dependents (Ferraro *et al.*, 2018). Sufficient remuneration is a resource, while its inadequacy becomes a stressful demand, contributing to financial stress, which can impact mental health and lead to job dissatisfaction (Dos Santos & Pais, 2025).

The fifth, "Social protection", assesses perceptions of job and family security, including medical leave, unemployment and retirement prospects. Low social protection invokes concerns, becoming a demand, whereas high protection becomes a resource for the worker (Dos Santos, 2019; Ferraro, 2023; Ferraro *et al.*, 2018).

The sixth dimension, "Opportunities", measures employability, entrepreneurship, and prospects for advancement (Ferraro, 2023). Abundant job offers and professional development possibilities can simultaneously act as resources and demands (Dos Santos & Pais, 2025).

Lastly, "Health and safety" evaluates perceptions of physical well-being and safety in the workplace (Dos Santos, 2019; Ferraro *et al.*, 2018). Comfortable and safe work conditions serve as resources, while dealing with sickness or risk due to inadequate safety measures becomes a demand (Dos Santos & Pais, 2025).

These dimensions collectively provide a comprehensive understanding of workers' experiences and perceptions regarding DW (Dos Santos & Pais, 2025). However, most studies have applied these dimensions descriptively, and little is known about how workers may perceive the same dimension simultaneously as a demand and a resource, a gap this study addresses.

Pereira *et al.* (2019) highlight the limitations of studies focused only on certain components of the DW through specific indicators or measures. They stress the need to adopt a more comprehensive approach, encompassing the entire spectrum of DW. This holistic approach, they argue, is crucial for better understanding and promoting DW globally, maximizing its positive impact worldwide.

Moreover, scholars argue for a shift towards an individual-focused definition that considers subjective perceptions of working conditions, moving beyond merely objective economic indicators such as unemployment rates and salaries (Yan *et al.*, 2023). At the macro-level, DW encompasses objective economic indicators like employment rates and wages, as well as dimensions like social protection, fundamental rights, and social dialogue. On the other hand, the micro-level of DW shifts the focus to the individual perception of workers, emphasizing aspects like self-value and fulfilment, social status, recognition, and meaningfulness at work. However, challenges remain in accurately measuring perceptions of DW (Ferraro *et al.*, 2015; Yan *et al.*, 2023). This reinforces the need for approaches, like the present one, that capture workers' subjective experiences of DW while linking them to health-related outcomes.

Job Demands and Resources

The JD-R theory, proposed by Demerouti *et al.* (2001), offers a modern approach to understanding the relationship between job characteristics and employee well-being. The theory distinguishes between two key elements: job demands and job resources. According to Bakker *et al.* (2023), job demands are the physical, social, or organizational aspects of a job that require sustained physical or psychological effort, such as high work pressure and unfavourable physical environment (see also Bakker & Demerouti (2007); Bakker & Demerouti (2017); Demerouti *et al.* (2001)). Instead, job resources are defined as the physical, psychological, social, or organizational aspects of a job that have motivating potential, are functional in achieving work goals, regulate the impact of job demands, and stimulate learning and personal growth (Bakker *et al.*, 2023; Bakker & Demerouti, 2007; Bakker & Demerouti, 2017; Demerouti *et al.*, 2001).

The findings of Demerouti *et al.* (2001) suggest that burnout symptoms result from a specific combination of working conditions. Elevated job demands are linked to increased exhaustion, while insufficient job resources are associated with increased disengagement. In occupations characterized by both high demands and limited resources, individuals are predicted to experience both exhaustion and disengagement simultaneously, representing the burnout syndrome. Hu *et al.* (2011) findings support the idea that excessive job demands and insufficient job resources have an energy-draining impact on employees, contributing to burnout through a stress process, increasing turnover intentions, and weakening organizational commitment. Conversely, high levels of job resources are associated with positive work outcomes through a motivational process. Yet, most applications of the JD-R model continue to treat demands and resources as separate categories, overlooking the possibility that the same work aspect can be experienced as both.

Bakker *et al.* (2023) argue that demands and resources instigate two different processes. First, through a health impairment process, the frequency or severity of job demands leads to increased effort, consuming employees' physical, emotional, and cognitive resources, possibly leading to exhaustion and health problems. Second, job resources prompt a motivational process, that satisfies basic psychological needs and fosters employee engagement, creativity and performance.

Bakker *et al.* (2010) found that is that if sufficient resources are provided to the worker, work engagement is not affected by high demands. High job demands seem to encourage people to use all available resources, resulting in high levels of task enjoyment and organizational commitment. Bakker *et al.* (2023) investigate this further, arguing that job demands and resources have a multiplicative impact on employee well-being. According to what the authors call the buffer hypothesis in the JD-R theory, job resources, such as skill variety, performance feedback, and opportunities for recovery, mitigate the impact of job demands (e.g., workload, cognitive and emotional demands) on strain by altering perceptions, moderating responses, or reducing health-damaging consequences (Bakker *et al.*, 2023). By contrast, the boost hypothesis posits that demands enhance the effect of resources on work engagement. In particular, employees facing challenging job demands benefit from resources, such as training, autonomy and social support, using these resources to cope with challenges. In simpler terms, job resources become salient and are most important for burnout and work engagement when job demands are high (Bakker *et al.*, 2023; Jimenez & Dunkl, 2017).

According to Langseth-Eide and Vittersø (2021), the motivational process in the JD-R theory not only leads to positive work outcomes, but also correlates with health outcomes. The authors argue that job resources motivate employees both intrinsically, facilitating growth, learning and development, and extrinsically, as tools to achieve work goals, leading to positive work outcomes such as work engagement. In their study, the authors found longitudinal evidence that job resources, like social support and feedback, predicted work engagement. Additionally, they found that engaged workers experienced better subjective health and are less absent from work compared to less engaged workers. This suggests that work engagement may have broader implications for health beyond organizational benefits, providing evidence that the JD-R theory can be used to predict positive health outcomes and mitigate negative health issues typically linked to work-related stress.

Claes *et al.* (2023) emphasize the importance of job resources in shaping employees' well-being, arguing that creating a supportive work environment and investing in job resources is key to enhancing subjective well-being and reducing burnout.

According to Bakker *et al.* (2023), some scholars struggle to differentiate job demands from resources. They argue that the absence of a demand doesn't always mean increased motivation, nor does lacking a resource necessarily make work more demanding. Additionally, there is a misconception that demands always have negative outcomes and resources always have positive outcomes. JD-R theory defines two independent processes: a health impairment process driven by excessive demands, and a motivational process driven by job resources. However, both demands and resources may lead to positive or negative outcomes depending on their nature and intensity. Thus, it is important to examine both sides of these constructs, rather than assuming that demands are always harmful and resources always beneficial (Bakker *et al.*, 2023).

Building on this complexity, another significand advancement of the JD-R theory is the proposed JD-R 3.0 framework (Li *et al.*, 2025), that explores more dynamic and nonlinear relationships among demands, resources, and employee outcomes. While the JD-R model has been critically approached, previous studies have not explored the dual-role nature of a single variable. The core scientific contribution of this study is the proposal that DW dimensions can simultaneously function as both a demand and a resource. Even though demands and resources are conceptually different, the same aspect of the work context, conditions, and content can simultaneously be both. For instance, a high level of developmental opportunities (the sixth DW dimension) is a resource *per se*, but taking the right developmental opportunity demands dedication to compare alternatives and invest time and energy in learning (Dos Santos & Pais, 2025). Adequate working time might also simultaneously enhance work-life balance and well-being (resource) and require good skills of time management (demand). Also, excessive workloads can be a source of stress (demand) and a trigger to developing workload management (resource). Consequently, it sounds wise to study to which extent each DW dimension is perceived as a resource and a demand instead of asking to choose demand or resource; this possibility is explored in the present study.

Risk behaviours

According to the World Health Organization, both disease prevention and health promotion intersect significantly with the concept of risk behaviours, which are actions or choices that increase the likelihood of adverse health outcomes (WHO, 2024a). These behaviours, such as smoking, excessive alcohol consumption, poor diet, and lack of physical activity, can contribute to chronic diseases. Effective public health strategies aim to mitigate these through interventions (WHO, 2024a).

Understanding the link between stress and risk behaviours in occupational health is crucial. Studies indicate that work stress increases the likelihood of individuals engaging in multiple risk behaviours, making them more susceptible to the development of chronic diseases (Siegrist & Rödel, 2006). Hamieh *et al.* (2022) found that perceived physical exertion at work was positively associated with certain risk behaviours such as tobacco and cannabis use, as well as a diet high in sugar and fat. Moreover, Martínez-Tur *et al.* (2023) highlight job insecurity as a significant stressor, correlating negatively with employee health. Employees in nonstandard, insecure employment are more likely to engage in unhealthy behaviours like alcohol and tobacco use, aggravating their health. However, these studies often isolate single stressors such as job insecurity or physical exertion. There is still little understanding of how broader configurations of working conditions, such as those captured by DW dimensions, relate to multiple risk behaviours simultaneously.

Understanding these dynamics is crucial for workplace interventions aimed at promoting employees' health and well-being and preventing risk behaviours. Evers *et al.* (2014) found that individuals exhibiting fewer risk behaviours were more likely to experience life satisfaction and be more productive. Moreover, those reporting a higher number of health-risk behaviours tended to have lower levels of physical and emotional well-being.

Smoking

The tobacco epidemic causes about eight million smoking-related deaths annually worldwide (WHO, 2019). In a systematic review of the literature, Khorrami *et al.* (2021) synthesized research on job-related stress and tobacco use among workers, highlighting the growing attention paid to the impact of the workplace psychosocial environment on employee health. Studies suggest that workplace characteristics like social capital, trust, and social networks influence smoking habits, with higher social capital associated with lower smoking rates (Khorrami *et al.*, 2021).

Cross-sectional studies suggest a link between job-related stress and smoking, especially among certain groups, though the

direct association remains unclear. Nonetheless, research indicates a positive correlation between job demands and smoking intensity (Kang *et al.*, 2005; Khorrami *et al.*, 2021).

Khorrami *et al.* (2021) argued that the work environment significantly affects smoking intensity and may influence shifts towards heavier smoking habits due to work-related stress. According to the authors, factors such as job strain, control, and demand have been consistently identified in cross-sectional studies as influencing smoking intensity. Yang *et al.* (2019) found that long working hours among female workers are associated with higher smoking rates. Moreover, the results of Hamieh *et al.* (2022) reinforce this idea: high physical exertion increases the odds of relapse in ex-smokers, decreases the odds of quitting in current smokers, and increases the odds of becoming a heavy smoker.

Alcohol consumption

Alcohol is a psychoactive substance that has dependence-producing properties. Despite its cultural acceptance, alcohol's harmful use leads to a substantial burden of disease, accompanied by significant social and economic repercussions (WHO, 2022a). With links to over 200 health conditions, alcohol consumption poses risks for mental disorders, alcohol dependence, and major non-communicable diseases. Globally, alcohol consumption contributes to three million deaths each year (WHO, 2022a).

In the workplace, alcohol consumption is associated with increased sick leave, and impaired work performance (Amiri & Behnezhad, 2020; Thørrisen *et al.*, 2019). In a cross-sectional study, Thørrisen *et al.* (2022) found that social drinking norms are an important predictor of alcohol consumption and alcohol-related problems. Additionally, longer working hours were associated with higher odds of alcohol-related problems and higher income was associated with higher alcohol consumption. Contrary to prior findings, this study found that higher levels of social support at work are linked to increased alcohol consumption among employees. This suggests that the impact of social support on drinking habits may vary depending on workplace culture, with liberal cultures potentially reinforcing permissive drinking norms.

Sygit-Kowalkowska and Ziółkowski (2019) argued that the work environment is a significant social factor that influences individuals and stimulates risk behaviours. Work stress emerges as the most prevalent risk to psychophysical health, defined as a state of psychological discomfort arising from a discrepancy between employees' expectations and their capacity to meet job requirements. The authors concluded that further elaboration is needed into the relationship between work-related stress and coping mechanisms, particularly regarding the use of alcohol.

Physical inactivity

According to the WHO (2024b), insufficient physical activity is the fourth leading risk factor for mortality, with inactive individuals having a 20% to 30% higher risk of all-cause mortality. The threshold of less than 150 minutes of moderate activity per week (or equivalent) was chosen based on robust scientific evidence indicating that individuals meeting this cut-off point exhibit superior health-related fitness, reduced risk of disabling medical conditions, and lower rates of chronic non-communicable diseases than inactive individuals (WHO, 2024b).

Yang (2019) highlights the latest US guidelines, indicating that adults should aim for 150–300 minutes of moderate activity per week, focusing on reaching 300 minutes to optimize health benefits. It is advised to distribute the exercise across the week. Additionally, engaging in more than 300 minutes of moderate physical activity per week is associated with additional health benefits (Yang, 2019).

Thivel *et al.* (2018) highlight a concerning trend in the shift towards sedentary professions, where increased sitting time during workdays is linked to sedentary behaviour outside of work, leading to negative health outcomes. This link is further supported by a systematic review, which found that working from home often leads to increased sitting time and reduced physical activity (Wells *et al.*, 2023).

Considering these three risk behaviours and the evidence on their relationship with job demands and resources, it is relevant to understand this connection more deeply and more precisely.

After describing the variables analysed in the present study, we can formulate the study's aims more precisely: This study aims to analyse how different dimensions of DW are perceived as job demands and/or resources and how these perceptions shape defined profiles of DW. It also investigates how this combined perception, viewing DW dimensions as both stressful (demands) and beneficial to well-being (resources), influences self-reported risk behaviours such as alcohol consumption, smoking, and physical inactivity.

Methods

Participants and procedure

Initially, the study included 2,308 participants, with 576 from Portugal and 1,732 from Spain, the proximal contexts for researchers to study. These Southern European countries share labour market challenges such as precarious employment and high unemployment, making them relevant contexts for examining Decent Work. Respondents with over 80% missing data were excluded, resulting in a final sample of 1313 Spanish workers and 494 Portuguese workers. The characteristics of the sample are listed in Table 1. Both samples mostly consist of female workers (Spain: $N = 714$, Portugal: $N = 270$), aged 18 to over 65 years. Also, a majority of participants holds a bachelor's degree (Spain: $N = 557$, Portugal: $N = 176$). The sectors of activity among respondents varies, including IT services, health, education, manufacturing, and others, with most working full-time.

The data was collected in 2021 by undergraduate students attending a research methodology course of psychology as part of their training. The sample was obtained through convenience

Table 1. Socio-demographic characterization of the Spanish and Portuguese samples.

	Spain (*N* = 1313)		Portugal (*N* = 494)	
	N	**%**	***N***	**%**
Gender				
Male	439	33.4	158	32.0
Female	714	54.4	270	54.7
Non-binary/ Third gender	71	5.4	33	6.7
Prefer not to say	89	6.8	33	6.7
Age				
18 - 24 years	446	34.0	77	15.6
25 - 34 years	261	19.9	129	26.1
35 - 49 years	273	20.8	180	36.4
50 - 65 years	332	25.3	105	21.3
> 65 years	1	0.1	3	0.6
Education				
Primary school	37	2.8	13	2.6
Secondary school	148	11.3	159	32.2
Trade/technical/ vocational training	319	24.3	37	7.5
Bachelor's degree	557	42.4	176	35.6
Master's degree	186	14.2	83	16.8
Doctorate degree	16	1.2	7	1.4
Other	50	3.8	19	3.8
Current employment status				
Full-time	794	60.5	405	82.0
Part-time	283	21.6	24	4.9
Self-employed	91	6.9	48	9.7
Student	145	11.0	17	3.4
Sector of activity				
IT sector	80	6.1	48	9.7
Professional services	208	15.8	56	11.3
Manufacture	96	7.3	35	7.1
Education	186	14.2	64	13.0
Health	240	18.3	56	11.3
Financial intermediation	29	2.2	23	4.7
Other	474	36.1	212	42.9

Legend: This table presents demographic information of participants from Spain (n = 1,313) and Portugal (n = 494), including gender, age, education, employment status, and sector of activity. Percentages are shown for each category within both national samples.

sampling, which, while suitable for exploratory research and educational purposes, may introduce sampling bias due to limited diversity and potential overrepresentation of certain demographics. Nonetheless, appropriate guidance was provided by a senior researcher. Each student administered 5 to 10 questionnaires to acquaints, friends, and relatives who complied with inclusion criteria. A report on the administration process concerning each participant was required. These reports outlined the student-participant relationship, provided context for questionnaire administration, and documented any participant inquiries or concerns, along with the student's responses. Additionally,each student signed a statement of responsibility, attesting the compliance with all the procedures.

Participants received a document outlining the study's purpose, their rights, and informed consent procedures. Participation was voluntary, data were collected anonymously, and participants could withdraw at any time without consequences. This research adhered to European Union legislation on ethics, privacy, and security in Social Sciences and Humanities, the European Code of Conduct for Research Integrity, and relevant European and national regulations. Ethical approval was obtained from *the Comissió de Bioètica de la Universitat de Barcelona* (IRB00003099) and the *Comissão de Ética e Deontologia da Investigação da Faculdade de Psicologia e de Ciências da Educação da Universidade de Coimbra* (CEDI/FPCEUC:53-7-21-08-2021). All participants provided informed consent in accordance with APA Ethical Principles of Psychologists and Code of Conduct (section 8.05).

Scales and data screening

This study is part of a broader research project, using a subset of the data collected in Spain and Portugal. Three instruments were used: the Decent Work Demands and Resources Questionnaire (DWDaRQ), a socio-demographic questionnaire (age, gender, education level, country of work, sector of activity and employment status), and a set of questions regarding self-reported risk behaviours.

The perception of the DW dimensions as demands and/ or resources was assessed with the DWDaRQ. Some preliminary results for the questionnaire were published by Czakert *et al.* (2024). It comprises 14 questions, divided into two categories, each elucidating a dimension of DW. The first category of items asks respondents about the perceived level of demand ("To what extent are these aspects overwhelming or stressful for you?"), while the second part enquires about the perceived level of resource ("To what extent are these aspects helpful and contributing to your wellbeing?"). Participants rated their responses on a 5-level Likert scale, ranging from 1= 'Not at all' to 5= 'Very much'.

To assess smoking behaviour, the participants were asked to report if they smoked or not (dummy variable). Additionally, the Fagerström Test for Nicotine Dependence (FTND) was used to measure physical nicotine dependence (i.e., smoking variable). This screening instrument was developed by Heatherton *et al.* (1991) and has extensive international usage. Validation studies were conducted for both Portuguese (Ferreira *et al.*, 2009)

and Spanish (Becoña & Vázquez, 1998) populations, with adequate sample sizes (N= 264 and N= 646, respectively). This scale comprises six questions, each yielding a certain number of points based on the response. The final score ranges from 0 to 10 and the tobacco dependency level was categorized as follows: 7–10 points = highly dependent; 4–6 points = moderately dependent; and less than 4 points = minimally dependent (Haighton *et al.*, 2013).

To assess alcohol consumption behaviour, the first question from the AUDIT questionnaire (Saunders *et al.*, 1993) was employed: "How often do you have a drink containing alcohol?". Participants responded on a scale ranging from 1= 'Never' to 5= 'Four or more times a week'.

Finally, to measure participants' physical activity habits related to health and self-care, they were asked to report the number of minutes per day they engaged in physical activity aimed at improving their health, fitness, and appearance. Subsequently, the responses were categorized into three levels: 'low activity', 'standard activity', and 'above standard activity', based on the WHO (2022b) recommendations, also highlighted in Yang's (2019) article.

All the items were originally written in English and then translated to Spanish and Portuguese. A bilingual panel of six experts checked the correspondence among languages extensively and profoundly, comparing the original in English and the two other language versions of the items. Those experts were researchers in work, organizational, and personnel psychology or related fields.

Data analysis

This research was conducted as a non-experimental study with a cross-sectional quantitative design. All analyses were performed using IBM SPSS Statistics for macOS, Version 29.0.2 (IBM Corp., Armonk, NY, USA, Released 2023) and RStudio, an open-source user interface for R.

Internal consistency was evaluated using Cronbach's alpha coefficient to verify the reliability of the DWDaRQ. The results were satisfactory in both countries (DeVellis, 2017), with Spain showing good reliability for "Demands" (α = 0.82) and adequate reliability for "Resources" (α = 0.69). In Portugal, reliability was good for both "Demands" (α = 0.80) and "Resources" (α = 0.81).

A cluster analysis was performed on the items of the DWDaRQ, analysing separately the items related to resources and those related to demands. The TwoStep method for continuous variables, a scalable cluster analysis algorithm, was used to determine the ideal number of clusters (Bacher *et al.*, 2004). The distance measure was calculated using the Log-Likelihood distance measurement, and Schwarz's Bayesian Criterion was used for cluster classification (Bacher *et al.*, 2004; Kent *et al.*, 2014). After, the clusters were combined in Decent Work Demands and Resources (DWDaR) profiles, and differences in these profiles regarding the risk behaviours variables were analysed through ordinal regression models, considering the ordinal nature of the dependent variables (Haubo & Christensen, 2018). A significance level of 0.05 for Type I error was considered for all the analyses.

Results

Cluster analysis

A separate two-step cluster analysis was performed on the seven items comprising each of the two DWDaRQ categories (C1-Demands and C2-Resources). This analysis employed log-likelihood distance and the Schwarz Bayesian Criterion to determine the optimal cluster solution. This procedure identified two clusters for each category, both exhibiting a fair quality of discrimination (silhouette measure of cohesion and separation = 0.40). The Demands category (C1- Demands) showed a cluster with high means, representing 41.7% of the global sample, and a cluster with low means, representing the remaining 58.3%. The Resources category (C2- Resources) also showed two clusters (cluster high representing 53.4% of the global sample; cluster low, 46.6%). Table 2 presents the main results detailing the composition of each cluster.

This table includes the mean (average score from 1 to 5) and the importance of each item. Importance indicates the relative contribution of each item to the cluster solution, with higher values reflecting stronger influence in distinguishing clusters.

As illustrated in Table 2, in the demands category, the item with the highest mean for both the high and low clusters was "adequate working time and workload" (M = 3.96 and M = 2.94, respectively).

Conversely, the item with the lowest mean in this category was "fundamental principles and values at work" (M = 1.63 for the low demands cluster and M = 3.15 for the high demands cluster), followed by "health and safety" (M = 1.82 for the low demands cluster and M = 3.16 for the high demands cluster). On average, the importance of the items in the demands category is above 0.8, except for items two and four.

In the resources category, as shown in the Table 2, the importance of most items is below 0.6, and the means of the items are generally higher compared to the demands category. The item "fundamental principles and values at work" had the highest mean for both the high resources cluster (M = 4.51) and the low resources cluster (M = 3.61). In the same category, "adequate working time and workload" had the lowest mean for the high resources cluster (M = 3.20) and the second-lowest mean for the low resources cluster (M = 2.65), with "opportunities" having the lowest mean in this cluster (M = 2.63).

Given this, it appears that the first two dimensions of the DWDaRQ are moving in opposite directions concerning demands and resources: adequate working time and workload

Table 2. Cluster analysis for the DWDaRQ items.

Items	C1-Demands				C2-Resources			
	Cluster high (41.7%)		Cluster low (58.3%)		Cluster high (53.4%)		Cluster low (46.6%)	
	Importance	*M*	Importance	*M*	Importance	*M*	Importance	*M*
1 – Fundamental principles and values at work	1.00	3.15	1.00	1.63	0.43	4.51	0.43	3.61
2 - Adequate working time and workload	0.57	3.96	0.57	2.94	0.18	3.20	0.18	2.65
3 - Fulfilling and productive work	0.84	3.62	0.84	2.36	0.34	3.85	0.34	3.00
4 - Meaningful remuneration for the exercise of citizenship	0.79	3.47	0.79	2.17	0.57	4.18	0.57	3.19
5 - Social protection	0.85	3.52	0.85	2.22	0.52	4.39	0.52	3.40
6 - Opportunities	0.89	3.32	0.89	2.02	1.00	4.12	1.00	2.63
7 - Health and safety	0.87	3.16	0.87	1.82	0.71	4.39	0.71	3.19

Legend: This table shows the mean scores and importance values for each of the seven Decent Work dimensions, analyzed separately as demands and resources. Higher importance values indicate stronger influence in distinguishing clusters. Items were rated on a 5-point Likert scale.

seem to be more demanding for individuals than resourceful, whereas fundamental principles and values at work appear to be more resourceful than demanding.

After obtaining the clusters, they were combined into four profiles. These profiles were named in line with previous studies that used a person-centred approach to create profiles based on the JD-R theory (Barnard *et al.*, 2023; Van Den Broeck *et al.*, 2012). In this study, the profiles were adapted to the DW field as follows: (1) Rich DW, for the high demands and high resources group; (2) Demanding DW for high demands and low resources group; (3) Resourceful DW for the low demands and high resources group; and (4) Poor DW for the low demands and low resources group. Table 3 presents the descriptive statistics regarding the DWDaR profiles.

As illustrated in Table 3, there are certain differences among demographic groups in the distribution of Decent Work profiles. Country distribution significantly differed across profiles, χ^2 (3) = 89.856, p < .001. Specifically, the Demanding and Poor DW profiles were more prevalent in the Portuguese sample (40.1% and 41.9% respectively) compared to the Rich and Resourceful profiles (15.3% and 19.7%). Rich and Resourceful DW profiles were more common among Spanish participants (84.7% and 80.3%). Gender distribution did not vary expressively across profiles. In terms of age, individuals in the Rich and Resourceful profiles tended to be younger, with 54.6% and 60.2%, respectively, falling between the ages of 18 and 34, compared to 40.4% and 44.2% in the Demanding and Poor profiles. This age distribution difference was statistically significant, χ^2 (3) = 37.514, p < .001, suggesting a meaningful association between age group and Decent Work profile. Educational attainment also varied significantly across profiles. Participants with a bachelor's degree or higher were significantly more represented in the Rich and Resourceful profiles (65.1% and 61%, respectively) compared to the Demanding and Poor profiles (48% and 50%). The chi-square test confirmed this association was statistically significant, χ^2 (3) = 23.81, p < .001. While minor differences were observed in current employment status and sector of activity across profiles, no big disparities were evident.

Ordinal regression model

Ordinal regression models (ORM) were employed to explore the relationship between DWDaR profiles and the different risk behaviours. The cumulative link model is particularly suitable for this type of analysis (Haubo & Christensen, 2018), because it handles the ordered categories of the dependent variable effectively, thus providing a framework to test how different profiles relate to the intensity of the risk behaviours. The proportional odds assumption was validated for all the models (p > .05). Additionally, a generalized linear model (GLM) was used to assess the relationship between DWDaR profiles and smoking behaviour. Table 4 and Table 5 present the results of the GLM and ORM analyses, respectively, for the effects of DWDaR profiles on smoking behaviour and tobacco dependency level.

As illustrated by Table 4, the GLM analysis revealed no statistically significant differences between DWDaR profiles in

Table 3. Socio-demographic characterization of the DWDaR Profiles.

Variables	Decent Work Demands and Resources Profiles							
	Demanding (n=304)		Rich (n=255)		Poor (n=344)		Resourceful (n= 487)	
	n	%	n	%	n	%	n	%
Country								
Spain	182	59.9	216	84.7	200	58.1	391	80.3
Portugal	122	40.1	39	15.3	144	41.9	96	19.7
Gender								
Male	103	33.9	95	37.3	116	33.7	163	33.5
Female	150	49.3	132	51.8	174	50.6	279	57.3
Non-binary/ Third gender	20	6.6	15	5.9	24	7.0	20	4.1
Prefer not to say	31	10.2	13	5.1	30	8.7	25	5.1
Age								
18 - 24 years	70	23.0	82	32.2	79	23.0	185	38.0
25 - 34 years	53	17.4	57	22.4	73	21.2	108	22.2
35 - 49 years	96	31.6	68	26.7	95	27.6	90	18.5
50 - 65 years	84	27.6	48	18.8	95	27.6	104	21.4
> 65 years	1	.3	0	0.0	2	.6	0	0.0
Education								
Primary school	4	1.3	4	1.6	17	4.9	13	2.7
Secondary school	72	23.7	37	14.5	70	20.3	67	13.8
Trade/technical/ vocational training	71	23.4	41	16.1	65	18.9	96	19.7
Bachelor's degree	98	32.2	124	48.6	128	37.2	223	45.8
Master's degree	46	15.1	41	16.1	40	11.6	64	13.1
Doctorate degree	2	.7	1	.4	4	1.2	10	2.1
Other	11	3.6	7	2.7	20	5.8	14	2.9
Current employment status								
Full-time	214	70.4	160	62.7	238	69.2	301	61.8
Part-time	44	14.5	40	15.7	55	16.0	93	19.1
Self-employed	22	7.2	21	8.2	32	9.3	32	6.6
Student	24	7.9	34	13.3	19	5.5	61	12.5
Sector of activity								
IT sector	21	6.9	15	5.9	25	7.3	35	7.2
Professional services	37	12.2	55	21.6	38	11.0	77	15.8
Manufacture	24	7.9	18	7.1	32	9.3	25	5.1
Education	37	12.2	37	14.5	55	16.0	69	14.2
Health	49	16.1	45	17.6	48	14.0	73	15.0
Financial intermediation	16	5.3	8	3.1	6	1.7	10	2.1
Other	120	39.5	77	30.2	140	40.7	198	40.7

Legend: This table summarizes demographic distributions across the four identified DWDaR profiles (Demanding, Rich, Poor, and Resourceful Decent Work). Variables include country, gender, age, education, employment status, and sector of activity, with corresponding frequencies and percentages.

Table 4. ***GLM for smoking behaviour across DWDaR profiles (reference profile: Resourceful).***

Term	Estimate	Standard Error	z value	p value
	Estimate	Std. Error	z value	Pr(>|z|)
(Intercept)	1.146	0.109	10.513	0.000**
DWprof_Poor	-0.263	0.163	-1.613	0.107
DWprof_Demanding	-0.202	0.172	-1.176	0.240
DWprof_Rich	-0.086	0.184	-0.466	0.641

Legend: This table presents results from a generalized linear model testing differences in smoking behaviour among the four DWDaR profiles. The Resourceful profile serves as the reference group.

** p <.05, ** p <.01*

Table 5. ***ORM for tobacco dependency level across DWDaR profiles (reference profile: Resourceful).***

Term		Estimate	Standard Error	z value	p value
		Estimate	Std. Error	z value	Pr(>|z|)
DWprof_Poor		0.050	0.284	0.176	0.860
DWprof_Demanding		-0.011	0.308	-0.036	0.972
DWprof_Rich		0.351	0.320	1.098	0.272
Thresholds	1|2	0.163	0.194	0.842	-
	2|3	3.096	0.311	9.970	-

Legend: This table displays ordinal regression results assessing differences in nicotine dependence levels between DWDaR profiles. The Resourceful profile was used as the reference category.

Note. 1 = Minimally dependent; 2 = Moderately dependent; 3 = Highly dependent.

** p* <.05, *** p* <.01

terms of smoking behaviour. The analysis of tobacco dependency levels (Table 5) showed no significant associations with the profiles as well.

Table 6 presents the main results of the ORM for alcohol consumption across DWDaR profiles, with Resourceful DW as the reference group.

As shown by Table 6, individuals in the Demanding DW profile showed a significant difference from those in the Resourceful DW profile (p = .028). This suggests that participants in the Demanding DW profile present a tendency towards lower levels of alcohol consumption than those in the Resourceful DW profile. All other comparisons between DWDaR profiles did not reveal significant differences.

Finally, the next table shows the main results of the ORM between DWDaR profiles and physical activity (Table 7).

Regarding the effects of DWDaR profiles on physical activity habits, individuals in the Poor and Demanding DW profiles (p = .005 and p = .006, respectively) showed less activity than those in the Resourceful DW profile (see Table 7). The Rich DW profile did not show a significant difference in physical activity habits (p = .243) when compared to the Resourceful DW group. All other comparisons between DWDaR profiles did not reveal significant differences as well.

Odds ratios (ORs) and 95% confidence intervals (CIs) were calculated for each DWDaR profile to quantify the strength of associations with risk behaviours. As mentioned above, for alcohol consumption, individuals in the Demanding profile had lower odds of reporting higher alcohol intake compared to the Resourceful profile (OR = 0.74, 95% CI [0.57, 0.97], p = .028). For physical activity, both Poor and Demanding profiles were associated with lower odds of engaging in higher levels of activity (OR = 0.66, 95% CI [0.50, 0.88], p = .005;

Table 6. ORM for alcohol consumption across DWDaR profiles (reference profile: Resourceful).

Term		Estimate	Standard Error	z value	p value
		Estimate	Std. Error	z value	Pr(>|z|)
DWprof_Poor		-0.046	0.130	-0.354	0.723
DWprof_Demanding		-0.300	0.136	-2.198	0.028*
DWprof_Rich		-0.234	0.140	-1.674	0.094
Thresholds	1|2	-1.501	0.098	-15.359	-
	2|3	-0.342	0.088	-3.895	-
	3|4	0.861	0.091	9.508	-
	4|5	2.410	0.124	19.478	-

Legend: This table reports the ordinal regression results examining differences in alcohol consumption frequency among DWDaR profiles. The Resourceful profile serves as the reference.

Note. 1 = Never; 2 = Monthly or less; 3 = 2-4 times a month; 4 = 2-3 times a week; 5 = 4 or more times a week.

* p <.05, ** p <.01

Table 7. ORM for physical activity habits across DWDaR profiles (reference profile: Resourceful).

Term		Estimate	Standard Error	z value	p value
		Estimate	Std. Error	z value	Pr(>|z|)
DWprof_Poor		-0.414	0.148	-2.800	0.005**
DWprof_Demanding		-0.431	0.156	-2.775	0.006**
DWprof_Rich		-0.187	0.161	-1.168	0.243
Thesholds	1|2	-0.039	0.093	-0.418	-
	2|3	1.550	0.107	14.462	-

Legend: This table presents ordinal regression results comparing physical activity levels among the four DWDaR profiles. The Resourceful profile is the reference group.

Note. 1 = Low activity; 2 = Standard activity; 3 = Above standard activity.

* p <.05, ** p <.01

OR = 0.65, 95% CI [0.48, 0.88], p = .006, respectively). Smoking behaviour and tobacco dependence did not significantly differ across profiles (all ORs close to 1, CIs including 1, p > .1). These results indicate that certain DWDaR profiles are linked to meaningful differences in alcohol consumption and physical activity, while associations with smoking and tobacco dependence were not statistically significant.

Discussion

The purpose of this exploratory study was to gain a better understanding of how workers perceive DW dimensions as job demands and/or resources and how these perceptions combine to form distinct DWDaR profiles. Addressing a gap in the literature, the study also investigated the association between these DWDaR profiles and self-reported risk behaviours.

The cluster analysis of the DWDaRQ items identified high and low mean score clusters in demands and resources. "Adequate working time and workload" emerged as the highest demand, aligning with JD-R theory, which links high job demands, such as workload, to potential strain, exhaustion and health problems (Bakker *et al.*, 2023). The lower scores for "fundamental principles and values at work" and "health and safety" suggest that these are not seen as pressing demands, when comparing with other dimensions.

By contrast, in the resources category, "fundamental principles and values at work" had the highest mean scores, indicating it is the most valued resource. This DW dimension is related to trust and respect at work (Ferraro, 2023), reflecting the quality of social interactions and relationships within the work

environment. According to the author, this dimension influences how individuals perceive their work relationships and feel valued and respected. This aligns with the JD-R theory, emphasizing the importance of job resources like autonomy and social support in managing demands and fostering growth (Bakker *et al.*, 2023). 'Fundamental principles and values at work' encapsulates trust, respect, equitable decision-making, and freedom of expression, contributing to a sense of dignity in work relationships (Ferraro *et al.*, 2018), highlighting the importance of these job resources in mitigating demands and enhancing well-being.

The DWDaR profiles (Rich DW, Demanding DW, Resourceful DW, and Poor DW) aim to provide a detailed understanding of work environments, highlighting that while Rich and Resourceful DW profiles are associated with work environments perceived as resourceful, Demanding and Poor DW profiles denote work environments that require intervention to either reduce the high levels of demands or enhance available resources. Individuals in the Poor DW jobs are prone to experiencing dissatisfaction and disengagement at work, while those in the Demanding DW profile are likely to struggle with high levels of exhaustion and dissatisfaction (Barnard *et al.*, 2023; Van Den Broeck *et al.*, 2012). Individuals in the Rich DW profile are inclined to exhibit high levels of work engagement, including vigour and dedication, suggesting that the presence of high job resources may buffer the negative impact of high job demands (Bakker *et al.*, 2023). Furthermore, individuals in the Resourceful DW profile are less inclined to leave their jobs compared to those in the Demanding profile and are more likely to experience engagement (Barnard *et al.*, 2023; Van Den Broeck *et al.*, 2012).

The demographic analysis showed that Portuguese respondents exhibit a higher prevalence in the Demanding and Poor DW profiles, suggesting challenging work conditions, while Spanish participants are more aligned with the Rich and Resourceful profiles, indicative of more favorable work environments. These findings are consistent with existing literature (Campos Lima *et al.*, 2021; Ferreira *et al.*, 2019) indicating that Portuguese work conditions were heavily influenced by internal devaluation policies and austerity measures during the eurozone debt crisis. These measures led to increased precarious work and weakened labor market institutions. Although subsequent left-wing governments implemented anti-austerity measures during economic recovery, wage growth remained slow, and economic inequality persisted.

Age and educational attainment were also significantly associated with DW profiles. Younger individuals and those with higher education levels were more prevalent in the Rich and Resourceful DW profiles, suggesting generational disparities in work opportunities and education's role in accessing quality employment. This aligns with previous findings, highlighting that older, lower-educated employees were over-represented in demanding jobs, while higher-educated males hold resourceful job positions (Van Den Broeck *et al.*, 2012). OECD (2021) indicators support this, showing a strong correlation between educational attainment and employment rates. According to the JD-R theory, Solomon *et al.* (2022) suggest that individuals with higher education levels benefit from increased job resources (e.g., remuneration, autonomy, job variety) but are also exposed to higher job demands (e.g., workload, pressure, intensity). This also aligns with the current findings, where participants with higher education were more often represented in profiles combining both high resources and high demands. These findings underline the need for targeted interventions to promote equitable access to DW and highlight the importance of continued research on socio-demographic determinants of work quality.

Despite the extensive literature linking job-related stress and workplace characteristics such as job strain, control, and demand with smoking behaviours (Kang *et al.*, 2005; Khorrami *et al.*, 2021; Kouvonen *et al.*, 2007), the present study did not find a statistically significant association between DWDaR profiles and smoking habits.

One possibility for these non-significant findings is that other factors, not measured in this study, may have a more substantial influence on smoking behaviour than DWDaR profiles alone. The complexity of smoking behaviour, which can be influenced by various individual, social, and environmental factors, may contribute to the lack of a significant association with DWDaR profiles. Khorrami *et al.* (2021) review points to the fact that recent observational studies of the association between job-related stress and smoking have produced mixed findings, including positive, negative, and null associations. Thus, these non-significant results may underscore the need for further research to explore the interplay between work environments, stress, and smoking behaviour.

The results of this research indicate that workers in Resourceful DW environments tend to have higher alcohol consumption compared to those in Demanding DW environments. This finding suggests that higher workplace resources may facilitate social drinking due to reduced stress and more opportunities for leisure activities, aligning with Thørrisen et al.'s (2022) findings on the influence of social drinking norms and workplace support. The lower alcohol consumption observed in the Demanding DW profile appears contradictory to findings from previous studies, such as Sygit-Kowalkowska and Ziólkowski's (2019), which suggest that work stress is the most prevalent risk to psychophysical health, potentially leading to substance abuse. This could be explained by workers in high-stress environments prioritizing coping mechanisms that do not involve alcohol. Additionally, Thørrisen *et al.* (2022) argue that workplace drinking culture significantly impacts drinking habits, with alcohol-discouraging environments predicting lower consumption levels.

Cultural factors in Spain and Portugal also shape drinking behaviours. In both countries, alcohol is often consumed socially (Bello, 2023), and these cultural norms may explain why higher workplace resources facilitate social interactions involving alcohol.

The present study found that individuals classified under the Poor and Demanding DW profiles exhibited significant lower

levels of physical activity compared to those in the Resourceful profile. This resonates with existing literature indicating that employees facing high strain or in passive jobs are more prone to report co-occurring adverse health behaviours, including smoking, heavy drinking, and physical inactivity (Kouvonen *et al.*, 2007).

The observed differences in physical activity levels among DWDaR profiles underscores the importance of considering work-related factors in promoting active lifestyles among employees. These findings deserve consideration alongside prior research suggesting that engaged workers experience better subjective health than less engaged workers. Therefore, job resources are positively related to health-related outcomes, via engagement, through long-term gains (Langseth-Eide & Vittersø, 2021). This relationship may explain why physical activity levels are lower in the profiles with insufficient resources.

Moreover, individuals working in environments with limited resources or high demands may face barriers to engaging in physical activity. These barriers could include time constraints, fatigue, and job-related stress, which may hinder employees' motivation and ability to prioritize physical activity during their leisure time.

Overall, these findings highlight the need for targeted interventions aimed at promoting physical activity among employees, particularly in environments with limited resources. Workplace health promotion initiatives, such as active standing breaks, incorporating physical activity into the workday, and promoting regular physical activity outside of work, may help mitigate the negative impact of adverse work conditions on employee health behaviours (Thivel *et al.*, 2018). Future research should explore the effectiveness of such interventions and identify strategies to create healthier DW environments that support employee well-being and promote active lifestyles.

Conclusion

This study set out to explore how DW dimensions can be perceived both as demands and as resources, integrating DW into the JD-R theory, and how these perceptions are associated with health-related risk behaviours. The findings confirm that DW dimensions are not fixed categories but may act simultaneously as resources when adequately fulfilled or as demands when unmet, thus requiring additional effort from workers. In this sense, dimensions such as adequate working time and workload emerged more strongly as demands, while fundamental principles and values at work were consistently perceived as resources, reinforcing the dual nature of DW proposed in the theoretical framework.

Building on this duality, the study identified distinct worker profiles based on their perceptions of DW dimensions. The Rich DW, Resourceful DW, Demanding DW, and Poor DW profiles reflected meaningful variations in how individuals experience their working conditions, providing a more nuanced understanding of how demands and resources combine in practice. This person-centred approach offers valuable insights into the heterogeneity of worker experiences, moving beyond traditional variable-centred models.

This study initiated the investigation into the link between DW dimensions and self-reported risk behaviours, such as alcohol consumption, smoking, and physical inactivity. Workers in Resourceful DW environments, characterized by high resources and low demands, tended to consume more alcohol, possibly due to reduced stress and more social opportunities. In contrast, Demanding DW environments showed lower alcohol consumption, possibly due to alcohol-discouraging work environments. No significant association was found between DW profiles and smoking behaviour. Finally, individuals in the Poor and Demanding DW profiles exhibited lower levels of physical activity that those in the Resourceful DW profile, suggesting that deficits in DW may foster maladaptive coping or limit opportunities for healthier routines. Taken together, these findings suggest that the way workers perceive their job conditions plays a role in shaping health-related behaviours.

By explicitly addressing these research questions, the study advances the integration of the JD-R and DW frameworks, demonstrating the utility of considering DW as both a demand and a resource. At the same time, it highlights the practical importance of fostering decent working conditions to reduce maladaptive behaviours and promote healthier choices among workers. These results not only enrich the theoretical dialogue between JD-R and DW but also contribute to the broader goals of sustainable development by reaffirming that decent and meaningful work constitutes a foundation for individual well-being and societal progress.

Limitations

The study's findings should be interpreted in light of several limitations. Firstly, the sample was not randomly selected, which may have introduced sampling bias, affected representativeness, and limited the generalizability of the results. In addition, although the data was collected in two countries, Spain and Portugal, the limited number of cross-country comparisons restricts the ability to draw strong conclusions about broader cultural or national differences. Moreover, cultural and contextual generalizability may be constrained, as both countries belong to Southern Europe and share certain socio-economic features, while potentially differing in important aspects of labor policy and working conditions that were not fully accounted for. Future research should aim to replicate and extend this study across more diverse cultural and economic contexts, using random or stratified sampling where possible, to validate and refine the identified DWDaR profiles.

Another limitation of this study is that the regression models included only the DWDaR profiles as predictors and did not control for potentially relevant covariates such as gender, age, educational level, employment status, or sector of activity. This choice aligned with the exploratory nature and primary focus of the research, using an already complex composite variable. Nevertheless, further analysis conducted in R revealed that some demographic variables showed statistically significant

associations with the dependent variables. In certain cases, including these as covariates would have improved model fit (e.g., as shown by small reductions in AIC values), suggesting other variables could play relevant roles. However, the analysis also showed that removing the DWDaR profile variable from the models resulted in a substantial deterioration of model fit (with a notable increase in AIC), reinforcing its relevance as a key explanatory factor and suggesting that a larger sample could find additional statistical significances. Nonetheless, the exclusion of demographic covariates, as potential confounding variables or alternative explanations, is acknowledged as a limitation that should be addressed in future research.

Another limitation is the use of a ternary scale, derived from open-ended responses, to assess physical activity. This introduces the risk of information loss and oversimplification, potentially compromising the accuracy of physical activity evaluations. Also, concerns about the reliability and validity of the FTND, particularly its limited applicability to certain populations and cultural contexts (Sharma *et al.*, 2021), may pose further limitations in accurately assessing nicotine dependence. Moreover, the reliance on a single-item measure to assess alcohol consumption limits the ability to capture the complexity of drinking behaviours, raising concerns about the robustness of the findings. Finally, the exclusive use of self-report data introduces the potential for common method bias, underscoring the importance of future research employing longitudinal or mixed methods designs, incorporating objective measures of health behaviours, and considering multilevel analyses to account for contextual factors.

The cross-sectional design impedes drawing causal conclusions, emphasizing the need for longitudinal investigations to interpret the temporal relationships between DWDaR profiles and risk behaviours patterns over time. Finally, analyzing DW dimensions as a global score overlooks specific associations in different work components (contexts, conditions, contents). Exploring these differentiated dimensions could provide insights into how specific aspects of DW contribute to employee well-being and risk behaviours. These limitations emphasize the importance of cautious interpretation and highlight avenues for future research to address methodological constraints and enhance the understanding of the relationships under investigation.

Future studies

Future studies could benefit from addressing the limitations identified in this research. Firstly, future studies would benefit from including a broader set of explanatory variables and moderators, particularly demographic, occupational and cultural factors, which may shape how workers perceive DW dimensions as demands or resources. Examining interactions between profiles and covariates could provide a more nuanced understanding of how personal and contextual factors influence risky behaviours.

Secondly, employing more comprehensive measures for assessing physical activity and alcohol consumption could enhance the accuracy of results. Future research could also explore alternative measures of smoking behaviour and consider additional factors that might influence the relationship between DWDaR profiles and smoking habits, as the use of the FTND may not fully capture the nuances of smoking behaviour (Sharma *et al.*, 2021). Exploring alternative measures for assessing smoking behaviour, considering psychological aspects alongside physical dependence, and examining specific populations, such as light smokers, could provide a better understanding of nicotine dependence (Sharma *et al.*, 2021).

Future research should also differentiate between DW dimensions to provide a better understanding of how each aspect of DW influences job demands and resources perceptions and impacts employees risk behaviours.

Finally, longitudinal investigations are needed to elucidate the temporal relationships between DW dimensions, as demands and resources, and risk behaviours over time, thus providing valuable insights into the causal pathways underlying these associations. By addressing these methodological and conceptual gaps, future research can contribute to a more comprehensive understanding of the complex interplay between work environments and employee health behaviours.

Practical implications

The present study provides valuable insights with practical implications for both policymakers and organizations. At the policy level, identifying groups trapped in Poor or Demanding DW profiles provides actionable insights for public health programs, labor ministries, and organizational decision-makers to design interventions targeting work-related health risks. By incorporating workers' psychological perceptions into policy, governments and institutions can better fulfill SDG 8 while mitigating costly societal outcomes, such as healthcare burdens from substance use and physical inactivity.

This study offers valuable insights into the creation of healthier work environments by addressing specific stressors and fostering legislations for decent working conditions, ultimately promoting employee well-being, as well as mitigating risk behaviours. By implementing policies that align with DW principles and integrate strategies for risk behaviour prevention, policymakers can contribute to the overall improvement of workplace conditions and the enhancement of employee well-being, satisfaction, productivity, and retention.

For organizations, the study provides practical guidance on creating workplaces that not only prioritize DW dimensions but also incorporate measures for preventing risk behaviours among employees. By identifying areas for improvement and implementing strategies to enhance job resources and reduce demands, organizations can create a positive work environment that benefits both employee's health and also contributes to the long-term success, sustainability, and well-being of the organization as a whole.

Theoretical implications

Theoretically, this study represents an initial attempt to integrate two separate lines of research, the JD-R theory and the DW field, which, to our knowledge, have not been directly linked

before. By bridging these fields, this study demonstrates that DW dimensions can act either as demands or resources, depending on their level of fulfillment, and explores how their combined effects influence employee well-being. The identification of DWDaR profiles using a novel, person-centered, and multidimensional cluster analysis provides new insights into the complex dynamics of work environments. Specifically, this study shows that DW dimensions can function simultaneously as demands and resources, advancing theoretical understanding of the contextual and dynamic nature of work conditions and their influence on employee well-being Despite its limitations, such as reliance on cross-sectional data and simplified measures for assessing risk behaviours, this research lays the groundwork for future investigations into the interactions between DW dimensions, job demands and resources, and employee health behaviours. Overall, this study significantly contributes to the literature by emphasizing the importance of integrating DW principles with perceptions of job demands and resources. Such integration is crucial for advancing theoretical understanding of workplace dynamics, fostering employee well-being, and mitigating risk behaviours.

Ethics and consent

This study was approved by the Comissió de Bioètica de la Universitat de Barcelona (Institutional Review Board, IRB00003099) and the Comissão de Ética e Deontologia da Investigação da Faculdade de Psicologia e de Ciências da Educação da Universidade de Coimbra (Code: CEDI/FPCEUC: 53-7-21-08-2021). All participants provided written informed consent prior to participation. Participation was voluntary, and participants could withdraw at any time without consequence.

Participants received an information sheet explaining the study's purpose, procedures, confidentiality, and data handling. They were informed that their data would be anonymized, stored securely, and used exclusively for research purposes. Written consent was also obtained for the use of anonymized data in publications. All procedures were conducted in accordance with the Declaration of Helsinki, APA Ethical Principles of Psychologists and Code of Conduct (section 8.05), and relevant European and national regulations.

Data availability statement

The data supporting the findings of this study are part of a broader research project, the Strategic Partnership Erasmus+ Project WORK-LIFE-FLOW: Excellence-based profiles to identify and apply tools and training for a better and sustainable Work-Life-Flow (Project Number: 2020-1-ES01-KA203-083282). A subset of the data, including the questionnaire and the responses used in this study, has been made openly available in the Zenodo repository (Bellu *et al.*, 2025) and can be accessed at https://doi.org/10.5281/zenodo.17674465 under a CC-BY 4.0 license. This dataset includes the values behind all reported means, standard deviations, and other measures. Additional data from the broader project not included in this subset may be available upon reasonable request and subject to ethical approvals.

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This paper examines how the seven dimensions of Decent Work (DW) can be perceived as both job demands and resources and how these perceptions are related to three self-reported risk behaviors: alcohol consumption, smoking (including nicotine dependence), and physical inactivity. Based on Job Demands–Resources (JD-R) theory, the authors used the DW dimensions of Ferraro et al. (2018) to collect cross-sectional survey data in 2021 from convenience samples in Spain (n = 1,313) and Portugal (n = 494). The authors measured each DW dimension twice — as perceived demand and as perceived resource — using the DWDaRQ. They also used the FTND to capture smoking, the first AUDIT item to capture alcohol frequency, and a WHO-based categorical variable to capture physical activity. Two-step cluster analyses of demands and resources produced high and low clusters for each, which were combined into four DWDaR profiles centered on the individual: Rich (high demands/high resources), Demanding (high demands/low resources), Resourceful (low demands/high resources), and Poor (low demands/low resources). Ordinal regression and GLM models were used to test profile associations with risk behaviors.
The key finding is that adequate working time/workload was the DW item most often perceived as a demand, while fundamental principles and values at work were the strongest perceived resource. Compared to the Resourceful profile, the Demanding profile reported lower alcohol consumption and physical activity, and the Poor profile reported lower physical activity as well. No significant differences emerged for smoking or nicotine dependence. The authors conclude that DW dimensions operate as both demands and resources, profile configurations are related to certain health behaviors, and policy and organizational interventions aimed at improving DW could influence public health outcomes.
The paper contains three novelties. First, conceptually, the study proposes and empirically tests the idea that DW dimensions can be experienced simultaneously as demands and resources, integrating DW research with the JD-R theoretical framework. Methodologically, the study uses a two-step clustering process: first, demands and resources are clustered separately; then, they are recombined to derive four DWDaR profiles adapted to DW (Rich, Demanding, Resourceful, and Poor). Third, it links these person-centered DWDaR profiles to multiple health-related risk behaviors (e.g., alcohol consumption, smoking, and physical inactivity) in Southern European samples, thereby bringing a public health perspective to DW perceptions. Overall, the combination

of DW dimensions treated as both demands and resources with a person-centered profiling approach and their associations with multiple risk behaviors is a distinct contribution.
The paper coherently links DW dimensions to JD-R constructs and explains why the same dimensions can function as both demands and resources. The clustering procedure and formation of the four profiles follow established, person-centered approaches in the JD-R literature, and they are applied logically.
Below are a few suggestions for improving the paper.
1) While it highlights the precariousness of employment in the Iberian Peninsula, the questionnaire does not seem to have included an item concerning the precariousness of the employment of those surveyed. If it was included, how was precarity measured? On page 14, it says, "less inclined to leave their job." Was inclination to leave one's job an item in the questionnaire?
2) Pages 15 and 16 list many limitations. Some are immediately obvious when one looks at the operationalization of the research question, and one wonders why they were not addressed in the research design. Perhaps these limitations should be mentioned in the introduction. This would clarify the early stage of the research program.
3) The demographic and country differences across profiles (notably Spain vs. Portugal) are described, yet the regression models did not include covariates. This weakens the argument that profile differences rather than demographic or national context drive behavioral outcomes.
4) Table 1: To assess how representative the sample is, add a column showing the socio-demographic characteristics of the populations of both countries.
5) Ensure all table captions and notes are self-contained (e.g., define abbreviations such as DWDaR and FTND). Consider moving some methodological details from tables to the methods section.
6) Ensure that all table captions and notes are self-contained (e.g., define abbreviations, such as DWDaR and FTND). Consider moving some of the methodological details from the tables to the methods section for clarity.
7) Provide more details and diagnostics for cluster solutions, such as cluster sizes per country, silhouette values by country, stability checks, and alternative clustering methods or bootstrapped stability. Report model fit indices for regression models, such as AIC/BIC, pseudo-R^2, and proportional odds test statistics.
8) Blanket statements such as "the current trend in DW research often serves market forces rather than focusing on human rights..." should be avoided, even if they are attributed to another author. Much of DW research criticizes the massive violations of ILO conventions.
A more personal grievance concerns how key health organizations, such as the WHO, highlight the dire consequences of smoking: X million deaths. A better approach would be to highlight the likelihood of premature death, because everyone dies eventually.
In sum, this manuscript addresses an interesting and timely question. It makes a novel conceptual contribution by integrating DW with JD-R through a dual-role lens and uses an appropriate person-centered analytic strategy. Strengthening statistical control, improving outcome measurement, and clarifying interpretations will increase confidence in the findings and their contribution to occupational health and policy debates.

Is the work clearly and accurately presented and does it engage with the current literature?
Yes

Is the study design appropriate and is the work technically sound?
Partly

Are sufficient details of methods and analysis provided to allow replication by others?
Yes

Are all the source data and materials underlying the results available?
Partly

If applicable, is the statistical analysis and its interpretation appropriate?
Partly

Are the conclusions drawn adequately supported by the results?
Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Political Economy of Labor, Trade and Finance

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

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Summary of the article
This article contributes to the contemporary debate on work quality amid economic and labor transformations marked by precariousness, instability, and increased professional demands. It examines Decent Work from a psychological perspective, integrating it with the JD-R theory. The authors propose that DW dimensions can be perceived as either job demands or job resources, depending on workers' subjective experiences. Using data from Portuguese and Spanish workers, the study employs a person-centered approach with cluster analysis to identify four Decent Work Demands and Resources (DWDaR) profiles. These profiles are then analyzed in relation to self-reported health-related risk behaviors, specifically smoking, alcohol consumption, and physical inactivity.
Overall, the study addresses a relevant and timely topic, contributes to the theoretical integration of Decent Work and JD-R frameworks, and explores an under-investigated link between work conditions and health-related behaviors.

General evaluation
The manuscript is theoretically grounded, empirically ambitious, and socially relevant. It aligns well with contemporary debates in work and organizational psychology and with international agendas such as the Sustainable Development Goals. The integration of Decent Work and JD-R theory is a clear strength and an innovative contribution. However, the manuscript would benefit from greater conciseness, improved methodological transparency, and a more cautious interpretation of some findings, particularly given the exploratory and cross-sectional nature of the study.

Detailed evaluation
1. Clarity, structure, and engagement with the literature (Partly)
The introduction and literature review are theoretically solid, well-referenced, and up to date. The manuscript convincingly articulates Decent Work, meaning of work, social justice, and JD-R theory, culminating in a clear empirical proposal. The alignment with contemporary debates and international policy agendas reinforces the scientific and social relevance of the study.
One of the most innovative aspects of the manuscript is the articulation between DW and JD-R, particularly the proposal that the same work dimension may function simultaneously as a demand and a resource. However, the psychological logic underlying this duality could be more explicitly developed. Specifically, the authors could clarify the mechanisms through which different workers perceive the same dimension in divergent ways (e.g., the role of individual differences, job context, or meaning-making processes). Additionally, the novelty of this approach could be strengthened by more explicitly contrasting it with previous DW or JD-R studies, thereby highlighting the unique theoretical contribution.
Despite its strengths, the literature review is very extensive and, at times, repetitive. This is particularly evident in repeated explanations of the demand–resource duality and in the detailed description of each DW dimension. Transitions between the three main blocks (DW → JD-R → health risk behaviors) could be more fluid and explicit. The transition to health risk behaviors would benefit from a brief rationale explaining why smoking, alcohol consumption, and physical inactivity are particularly relevant outcomes in the work context, linking them more directly to worker health, productivity, and well-being.

2. Study design (Yes)
The study design is appropriate for the exploratory aims of the research. The sample size is robust, providing sufficient statistical power for cluster analysis and profile identification.

3. Methods and analysis (Partly)
The methods section is generally detailed and transparent, including sample characteristics, instruments, and analytical procedures. However, further details are suggested.
The use of convenience sampling through students' personal networks raises concerns regarding selection bias and limits the generalizability of the findings. While the authors correctly note that such sampling is acceptable for exploratory research, this point should be more explicitly linked to the study's aims, reinforcing that the objective is to identify patterns and profiles rather than to make population-level inferences.
The manuscript indicates that the data were collected as part of a broader research project conducted in 2021 by undergraduate students enrolled in a research methods course. This context should be more explicitly described.
When the manuscript says "proximity contexts for the researchers' study," what exactly does it refer to? Physical locations close to the participants or students? Nearby social or cultural

contexts? Study settings with close interaction between researcher and participants?
Related to DWDaRQ, it is unclear whether an exploratory or confirmatory factor analysis was conducted in the present study, or whether the original factor structure was assumed. The Cronbach's alpha of 0.69 for the "Resources" dimension in Spain, although marginally acceptable, warrants critical discussion regarding its implications for interpreting the results.
Some health behavior measures are relatively simplistic. Alcohol consumption is assessed with a single item, and physical activity relies on simple self-report, which may limit sensitivity. Potential social desirability bias is not discussed, despite its relevance for self-reported health behaviors. Furthermore, it is not always clear whether variables were treated as continuous, ordinal, or categorical, which is essential for replicability and interpretation of the statistical models.
It is not clear whether the instruments used had been previously validated for the Portuguese and Spanish populations, or if formal translation and back-translation procedures were carried out specifically for this study. For example, the authors state that the instrument "was developed by Heatherton et al. (1991) and has extensive international usage. Validation studies were conducted for both Portuguese (Ferreira et al., 2009) and Spanish (Becoña & Vázquez, 1998) populations." However, they also describe that "all the items were originally written in English and then translated into Spanish and Portuguese. A bilingual panel of six experts checked the correspondence among languages extensively and profoundly, comparing the original in English with the Portuguese and Spanish versions of the items." This description leaves it ambiguous whether the study used previously validated instruments or versions translated specifically for the present research.

4. Source data and materials (Yes)
The authors have made publicly available the subset of data used in this study via the Zenodo repository (DOI: 10.5281/zenodo.17674465) under a CC-BY 4.0 license, which includes all values underlying the reported means, standard deviations, and other measures. Additional data from the broader project may be requested subject to ethical approval, but this does not limit replication of the analyses reported in the article.

5. Statistical analysis and its interpretation (Partly)
The analytical strategy used in this study is generally appropriate and demonstrates innovation, particularly in using a person-centered approach to identify DWDaR profiles. The shift from traditional variable-centered analyses to profile construction is a clear strength, offering nuanced insights into how demands and resources combine in real work environments.
However, several aspects of the cluster analysis require clarification. The choice of TwoStep clustering over alternative methods, such as k-means or Latent Profile Analysis, is not theoretically justified, and the rationale for this decision should be explicitly stated. Similarly, the validation of the cluster solution is insufficiently detailed. Although a silhouette value of 0.40 is reported, indicating only moderate quality, the implications of this metric should be critically discussed. It is unclear whether alternative solutions, such as a three-cluster model, were considered or how the stability and replicability of the clusters were assessed. Additionally, the process of combining demand and resource clusters into the DWDaR profiles, while innovative, is methodologically complex and would benefit from a clearer, step-by-step explanation to ensure transparency and replicability.
The results section is coherent and aligned with the study's objectives; however, it is often overly detailed at the item level. In several instances, interpretative statements appear within the Results section, such as identifying specific dimensions as particularly salient demands or resources, which would be more appropriately discussed in the Discussion section.

Regarding sociodemographic analyses, the reported associations with country are informative but require further contextualization, particularly given the use of convenience sampling. While the absence of gender differences is mentioned, its interpretation is lacking. The omission of effect sizes, such as Cramer's V, limits the assessment of the practical relevance of these associations. Care should also be taken to avoid implying the existence of "national profiles," and instead clarify that country is associated with differing probabilities of profile membership.
The ordinal regression models are generally appropriate, but additional details are needed to strengthen interpretation. Specifically, it should be clarified whether multicollinearity was assessed, whether sociodemographic covariates were controlled for, and the sample sizes for each model should be reported. Furthermore, an initial synthesis of the results should be provided, highlighting both the direction and magnitude of effects. For example, noting that an odds ratio of 0.65 for physical activity represents a substantial reduction in the likelihood of higher activity levels would enhance clarity and interpretability for readers.

6. Discussion and conclusions (Partly)
The Discussion section is conceptually rich, offering a detailed examination of DW dimensions, their classification as demands or resources, and their associations with health-related risk behaviors. However, the section is overly long and dense, with extended paragraphs and some redundancy with the Results section. Readability would improve with shorter sentences. While the interpretation of the DWDaR profiles is generally sound, the analysis could be strengthened by more explicitly considering the combined effects of demands and resources. For example, comparing profiles with high demands and high resources versus high demands and low resources would reinforce the application of JD-R theory and provide a more nuanced understanding of how these factors interact to shape employee well-being.
The discussion of health-related behaviors is informative but could be improved. Cultural and national differences between Portugal and Spain, particularly regarding alcohol consumption, should be more explicitly addressed. Potential biases inherent in self-reported data, including underreporting, should be acknowledged, and interpretations, especially regarding higher alcohol consumption in resourceful work contexts, should be presented more cautiously and clearly framed as speculative. Additionally, the discussion would benefit from greater emphasis on the practical magnitude of effects, such as odds ratios or other standardized measures, to highlight the real-world relevance of the findings.
The Conclusion section reiterates much of the content from the Discussion and is therefore somewhat repetitive. While the conclusions are broadly supported by empirical results, particularly regarding physical activity and alcohol consumption, some statements linking well-resourced work environments to healthier or riskier behaviors should be interpreted more cautiously, given the cross-sectional design and reliance on self-reported data. The lack of significant findings concerning smoking behavior also warrants further exploration, both in terms of theoretical implications and methodological limitations.
Overall, the manuscript makes a meaningful contribution by integrating DW dimensions into the JD-R framework and demonstrating that these dimensions can simultaneously act as demands or resources. The identification of DWDaR profiles through a person-centered, cluster-analytic approach provides valuable insights into the heterogeneity of worker experiences and underscores the importance of considering both the qualitative and quantitative aspects of work environments. However, the manuscript would benefit from structural refinements, more explicit discussion of combined effects, cautious interpretation of speculative findings, and clearer attention to practical significance and methodological constraints.

OVERALL RECOMMENDATION
This is a theoretically innovative and methodologically promising study with clear relevance for work psychology and occupational health. With greater clarity, conciseness, and methodological transparency, the manuscript has strong potential to make a meaningful contribution to the literature on Decent Work, JD-R theory, and health-related behaviors.

Is the work clearly and accurately presented and does it engage with the current literature?
Partly

Is the study design appropriate and is the work technically sound?
Yes

Are sufficient details of methods and analysis provided to allow replication by others?
Partly

Are all the source data and materials underlying the results available?
Yes

If applicable, is the statistical analysis and its interpretation appropriate?
Partly

Are the conclusions drawn adequately supported by the results?
Partly

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Work and organizational psychology

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.